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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,236	07/28/2000	David Little	0002.1G1	3414

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EXAMINER

SORKIN, DAVID L

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 06/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/628,236

Applicant(s)

LITTLE ET AL.

Examiner

David L. Sorkin

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 11 April 2002 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The proposed drawing correction, filed on 11 April 2002 has been disapproved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance. The proposed drawings delete all usage of certain reference characters recited in the specification, such as "3", "4", "6", "9", "10", "11", "14", "16", "17" and "18". Reference character "1" is still improperly used to designate both the frame (Fig. 1) and the shaft components (Fig. 3). Proposed Fig. 3 still improperly includes an encircled reference character. Proposed Fig. 4 improperly refers to two different cross-sections as "VII—VII". Many of the figures still improperly use arrows. See especially Figs. 1, 4-9 and 11-33.
2. The objections to the drawings set forth in the previous office action are maintained.

Specification

3. The disclosure is objected to because the "frame" and "shaft components" are both referred to by the reference character "1"; the "shaft assembly" and "feed screw" are both referred to by the reference character "2"; the "end plate" and "bases" are both referred to by the reference character "3"; the "end plate" and "left edge tooth" are both referred to by the reference character "4"; the "lower housing" and "right edge tooth" are both referred to by the reference character "5"; the "discharge door" and "bearing" are both referred to by the reference character "6"; the "upper housing" and "shaft screws"

Art Unit: 1723

are both referred to by the reference character "7"; and the "feed housing" and "tooth base screws" are both referred to by the reference character "8".

Claim Objections

4. In claims 5 and 14 "rises" should read - - rise - -.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 1 and 10 are rendered indefinite by the phrase "the shaft extensions adapted to encounter the particles and drive them at least in part to the inside surface such that substantial energy is imparted to them". It is considered that the structural scope of the shaft extensions are not "particularly point[ed] out" as the statute requires, but instead are vaguely limited. Firstly, no standard is set forth to determine whether a given energy is or is not a "substantial energy". Secondly, even if one knew the value of such a threshold energy according to the claim, it would be unreasonable to require a potential infringer (or anyone of ordinary skill in the art) to test a given apparatus with a infinite number of types of particles (all sizes, shapes, many compositions) and thereby determine if, in any case (and in an manner of use), the apparatus happens to impart a "substantial energy" upon particles "of polymers and other material", "at least in part" as claimed.

8. Similarly, claims 9 and 16 are further rendered indefinite by the phrase "adapted to drive the particles to the inside surface".
9. The term "very close" in claims 5 and 14 is a relative term which renders the claim indefinite. The term "very close" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
10. Claims 6 is rendered indefinite by the phrase "key and slot means", because "key and slot" is not a function. See *Ex parte Klumb* 159 USPQ 694 (Bd. App. 1967).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

12. Claims 1-10 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutter (US 3,591,146). Regarding claim 1, Sutter ('146) discloses a mixer comprising a substantially cylindrical mixing chamber (4) with an inside surface enclosing a rotatable shaft (14); and shaft extensions (16,16',17) removable from the shaft. Regarding the stipulations of intended use recited in claim 1 and other claims, "apparatus claims cover what a device *is*, not what a device *does*" ((emphasis in

Art Unit: 1723

original) *Hewlett-Packard C. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)). Apparatus must be structurally distinguishable from the prior art. See MPEP 2114 for more information. Regarding claim 2, the shaft extensions comprise a base (17) and an end portion (16), the end portion being removable from the base portion and the base being removable from the shaft. Regarding claim 3, the end portion comprises a tooth face comprising a major face, the major face being substantially flat and orient such that when passing through a plane including the shaft axis the major face first encounters the plane with a leading edge of the major face and the major face extends along an acute angle therefrom away from the plane (see drawing). Regarding claim 4, the leading edge comprises most of a height of the shaft extension (see drawing). Regarding claim 5, the shaft extension rises from the shaft to very close to the inside surface (see drawing). Regarding claim 6, the base portion is secured to the shaft by key and slot means (see drawing). Regarding claim 7, the end portion comprises a substantially complete shield (16"). Regarding claim 8, the tooth face further comprises a lower bevel face extending away from the plane from a lower edge of the major face at a greater angle to the plane than the major face (see drawing). Regarding claim 9, the tooth face further comprises a top face extending away from a top edge of the major face and adapted to drive the particles into the inside surface (see drawing). Regarding claim 10, Sutter ('146) discloses a mixer comprising a substantially cylindrical mixing chamber (4) with an inside surface enclosing a rotatable shaft (14); and shaft extensions (16,16',17) comprising a tooth face, the tooth face comprising a major face, the major face being

Art Unit: 1723

substantially flat and orient such that when passing through a plane including the shaft axis the major face first encounters the plane with a leading edge of the major face and the major face extends along an acute angle therefrom away from the plane (see drawing). Regarding claim 13, the leading edge comprises most of a height of the shaft extension (see drawing). Regarding claim 14, the shaft extension rises from the shaft to very close to the inside surface (see drawing). Regarding claim 15, the tooth face further comprises a lower bevel face extending away from the plane from a lower edge of the major face at a greater angle to the plane than the major face (see drawing). Regarding claim 16, the tooth face further comprises a top face extending away from a top edge of the major face and adapted to drive the particles into the inside surface (see drawing).

13. Claims 10-16 are rejected under 35 U.S.C. 102(a and e) as being anticipated by White et al. (US 6,022,137). Regarding claim 10, White ('137) discloses a mixer comprising a substantially cylindrical mixing chamber (54) with an inside surface enclosing a rotatable shaft (76); and shaft extensions (78,78) comprising a tooth face, the tooth face comprising a major face, the major face being substantially flat and orient such that when passing through a plane including the shaft axis the major face first encounters the plane with a leading edge of the major face and the major face extends along an acute angle therefrom away from the plane (figs. 1 and 2). Regarding claim 11, the shaft supports at least two rows 180 degrees apart of shaft extensions along the length of the shaft (see fig. 2). Regarding claim 12, the shaft supports at least two rows 180 degrees apart of shaft extensions along the length of the shaft (see fig. 2).

Art Unit: 1723

Regarding claim 13, the leading edge comprises most of a height of the shaft extension (see drawing). Regarding claim 14, the shaft extension rises from the shaft to very close to the inside surface (see fig. 1g). Regarding claim 15, the tooth face further comprises a lower bevel face extending away from the plane from a lower edge of the major face at a greater angle to the plane than the major face (see fig. 2). Regarding claim 16, the tooth face further comprises a top face extending away from a top edge of the major face and adapted to drive the particles into the inside surface (see figs. 1 and 2).

Response to Arguments

14. Applicant states that "[t]he present invention is the first device to be specifically designed for melt blending polymers thermokinetically, i.e., without external heat". The examiner cites U.S. Pat. No. 1,424,445 to Bowen et. al, as evidence that this statement is incorrect. See page 1, lines 26-30.

15. Applicant asserts that "[a] device may be defined by what it does". This statement is in sharp contrast with MPEP 2114 which states "Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959)".

16. The examiner disagrees with applicant's statement that the nut of Sutter ('146) is not attached to the shaft. The drawing clearly shows the nuts (17) being bolted to the shaft.

Art Unit: 1723

17. The examiner disagrees with applicant's assertion that "there is no 'major face' in Sutter disclosing a flat angled tooth face". The drawing clearly depicts "blades 16" have a large, angled flat surface.

18. The examiner disagrees with applicant's assertion regarding Sutter ('146) that "There is not slot or key". The drawing and col. 1, lines 41-46 clearly disclose a slot and key.

19. The examiner disagrees with applicant's statement regarding the intended use of shielding. The examiner considers that the nut is shielded by the blade, although applicant is reminded that "apparatus claims cover what a device *is*, not what a device *does*" ((emphasis in original) *Hewlett-Packard C. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)).

20. The examiner disagrees with applicant's statement regarding claim 8. The drawing of Sutter ('146) clearly depicts several surfaces at angles different than that of the "single exceptionally flat surface". For example a radially outermost surface approximately perpendicular to the "single exceptionally flat surface is clearly depicted, as well as other edge surfaces.

21. Applicant points out the apparatus of White ('137) is intended to be used for a purpose other than that which the applicant intends the instant invention to be used for. It is note the a patent to a device for cleaning finger nails has been held invalid because a prior art pencil had the same structure, even though the pencil was for writing. *Northam Warren Corp. v. D. F. Newfield Co.* 22 USPQ 313 (E.D.N.Y. 1934).

22. The examiner disagrees with applicant's assertion with regard to White ('137) that "no combined angling of faces is shown or described). Fig. 2 clearly shows several faces of various angles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


David Sorkin

June 17, 2002


CHARLES E. COOLEY
PRIMARY EXAMINER